

BENHS INDOOR MEETINGS

9 July 1991

The President, Mr A. J. HALSTEAD showed a live female specimen of the giant woodwasp, *Urocerus gigas* (L.) (Hymenoptera: Siricidae), found at RHS Garden, Wisley, Surrey. The larvae feed in the dead wood of pines.

He also showed adults and larvae of *Dermestes lardarius* L. (Coleoptera: Dermestidae). Commonly known as the larder or bacon beetle, this was in the past a frequent pest in kitchens and grocers' shops where the adults and larvae feed on preserved meats such as ham or bacon and other stored products. With the advent of refrigerators and modern food packaging this insect has virtually disappeared. On 14.v.91 two adult beetles were brought to the exhibitor from a house at Hinchley Wood near Esher, Surrey. The source of the infestation was found to be a sack of 6X fertilizer. This brand of compost is produced from deep litter poultry houses and doubtless contains carcass material.

Mr R. A. JONES showed three different colour forms of *Bitoma crenata* (F.) (Coleoptera: Colydiidae). The 'normal' form has the elytra dark with four pale spots; an entirely dark form was taken in Houghton Forest, West Sussex, 6.ii.77, and a peculiar variant with normal right elytron and entirely pale left elytron was taken in Knole Park, Sevenoaks, Kent, 19.vi.91.

Mr R. A. JONES reported that whilst he was in Washington DC, USA, recently his brightly coloured tapestry holdall bag had been relentlessly pursued by a huge *Anthrax*-like bee-fly.

Mr S. M. MILES wondered what might become of the successful breeding colony of the wart-biter, *Decticus verrucivorus* (L.), (Orthoptera: Tettigoniidae), should the London Zoo close down as threatened in September 1992.

Mr A. J. HALSTEAD reported seeing a large cloud of mayflies, fluttering about 6 m in the air over Painshill Park, Cobham. Although unable to identify it, it was a large species, and even at that height he could follow the characteristic movement of individuals in the swarm.

There then followed a slide evening.

Mr R. A. JONES showed slides of various flies, beetles and bugs, illustrating that insects have to cling quite precariously onto plant stems and leaves. A hunting spider perched at the end of a grass stem seemed quite out of place. It was suggested that it might have been infected with a fungus. In insects, some fungi are known to attack the nervous system, causing the host to uncharacteristically climb up the herbage. When the fungus kills the insect and spores are released by fruiting bodies, they are more likely to be caught by the wind and dispersed. An unidentified larva with white waxy secretions was suggested to be that of *Scymnus* species (Coleoptera: Coccinellidae).

Mrs F. M. MURPHY showed slides from a recent trip to the Pyrenees. Many of the areas were rather disappointing for spiders, and most species could easily be identified from British books. However, she took the opportunity to visit the site of a species possibly new to science, living in holes in a wall. The technique for capturing it involved throwing ants into its web, and 'pootering-up' spiders which rushed out from their tunnels to investigate. Some lizards, presumably *Lacerta muralis*, were very tame, allowing her to approach closely with the camera. Butterflies photographed included the green hairstreak and small copper. The scenery was quite spectacular, and wild boar were visible on the countryside surrounding one of the gîtes in which she stayed.



Fig. 1. The fourteen-spot ladybird, *Propylea quatuordecimpunctata* (L.) on a stinging nettle leaf. The spines make the leaf difficult terrain for the struggling beetle. Photograph: R. A. Jones, shown at the slide evening of 9 July 1991.



Fig. 2. *Harpactocrates ravastellus* Simon 1914, (Dysderidae), showing the peculiar bulbs on the animal's palps. This spider was taken on 4.vi.91 at the end of the road in the Riberot valley, Ariège on the French side of the eastern Pyrenees. It was found among stones. There are a number of records, all from the Pyrenees. Dick Jones (the arachnologist) who was with us on this trip and took an immature specimen reports that he has found it difficult to feed. Photograph: F. M. Murphy, shown at the slide evening of 9 July 1991.

Mr M. J. SIMMONS showed some studio photographs of butterflies, produced for the tourist industry in what was East Germany, and provided by a Polish colleague who obtained them when studying there. These were mainly large and striking species like the swallowtail butterfly, large tortoiseshell, Queen of Spain fritillary, lesser purple emperor, pale clouded yellow, death's head hawk-moth and poplar hawk-moth. He also showed the curious pupa of a bagworm moth, which he had taken in Poland, and the Colorado beetle, which although common in Poland was controllable by virtue of the small potato fields. Farmers would pick off the beetles and larvae from their small plots in half an hour.

**Joint Meeting with the London Natural History Society held at the rooms of the
Linnean Society, Burlington House, Piccadilly
11 September 1991**

The chairman, Mr K. H. HYATT, Vice-president of the LNHS welcomed the BENHS to this the eighth joint meeting of the two societies.

Mr A. J. HALSTEAD showed a specimen of *Agrilus pannonicus* (P. & M.) (Coleoptera: Buprestidae) from a moribund oak at the RHS Garden, Wisley, Surrey on 8.viii.91. There were many of the characteristic semi-circular emergence holes in the bark and other specimens of this rare beetle were seen up to 15.viii.91, late dates for a species usually regarded as being active in June and early July.

Mr Halstead also showed a live and active specimen of a rather pretty unidentified praying mantis, found on 7.vii.91 as a final instar nymph on orchids imported from Thailand. It reached the adult state on 23.viii.91. Some live flies introduced into the container were rapidly dispatched.

Mr E. W. GROVE showed several examples of the knopper gall on oak caused by the cynipid wasp *Andricus quercuscalicis* Burgsd. These galls had been found on the ground, broken open and with the grubs removed from inside. Mr Grove initially believed that these had been attacked by squirrels, but he now thought that the grubs had been eaten by birds.

Mr R. A. JONES showed specimens of *Malachius marginellus* (Ol.) (Coleoptera: Melyridae) from Winchelsea, East Sussex, 11.vii.91 where the species was common under plants on the shingle beach. In the male of this usually rare species, the apex of each elytron is bent and twisted under a small tubercle and with a peculiar dangling appendage. This is the only British species of the genus in which this convolution occurs, although related genera have similar appendages.

Several members commented on the sudden abundance of the silver Y moth *Autographa gamma* (L.); Mr M. J. SIMMONS reported 158 in his moth trap on the night of 2.ix.91. A report had been received from Mr B. GOATER of thousands of specimens arriving on the Dorset coast, flying about 8 inches above the sea. Mr HYATT commented on the large numbers of the hummingbird hawkmoth *Macroglossum stellatarum* L., which he saw feeding at fuchsia flowers recently in the Isles of Scilly. Dr D. BEVAN reported large numbers of the small tortoiseshell *Aglais urticae* L. and Messrs M. J. SIMMONS and C. W. PLANT wondered if the apparent absence of large numbers of larvae earlier in the year indicated a sudden migration of this species. Mr A. J. HALSTEAD noted that the large numbers of hoverflies, mainly *Episyrphus balteatus* (Deg.) and *Scaeva pyrastris* (L.), had been widely observed, and reported in several newspapers.

Mr A. J. HALSTEAD reported the death of two BENHS members, Mr E. N. Archer and Mr S. R. Bowden.

Mr K. H. HYATT reported the deaths of Ms Cynthia Longfield, the first woman president of the LNHS and Mr E. Hoskins.

The name of Mr K. J. Daley was read for the second time and he was duly elected a member of the BENHS.

Mr. E. M. THAIN spoke on 'The natural history of moth pheromones'. It was John Ray, in 1693, who seems first to have noticed that male peppered moths came to a caged female. He suggested in his journal for that year that they showed all the behaviour of having been attracted by a scent. Nearly 200 years later, J. H. Fabre wrote of moths assembling as if it were common knowledge. He studied the emperor moth and oak eggar putting wax on their antennae to deduce that they used these elaborate organs to detect a volatile vapour given off as a liquid.

The first modern work was done in Germany in the 1950s on the silkworm moth. It was here that the first pheromone was isolated, identified, and chemically synthesized. A quarter of a million moths produced 10 mg of the pure chemical, a straight-chain saturated alcohol. Subsequent analysis of moth pheromones revealed many of them to be similar molecules, long carbon chains with $\bullet\text{OH}$ or $\bullet\text{OOH}$ end-groups. Mammalian pheromones were much more complicated, consisting of complex multicyclic compounds.

Much work has been carried out on insect pheromones, in an attempt to find new means for controlling insect pests. The boll worm moth, a pest of cotton in Africa was an early target. Moths searching for a scent drift down-wind until they detect the chemical, then they fly up-wind in search of the source. Mass production and release of the chemical as granules on the ground causes confusion of the moths as they seek out millions of conflicting stimuli.

When using pheromones in traps, it is important to look at each species individually. Different flight patterns mean that some traps must be designed for low-flying moths, while others require water traps if they fly in and out of conventional traps. Using pheromone traps to catch and kill moths is expensive and their main use is in monitoring an insect population to target conventional pest control measures more effectively.

Pheromones can be identified and chemically analysed using sensitive gas-chromatographic techniques. The flow of gas carrying the chemical is split, and where one stream goes into the machine another stream passes over a live insect. As the pheromone passes, the insect reacts and the corresponding peaks of the chromatogram trace can be identified. The exact nature of the chemical can then be calculated. However, some insects are so sensitive to the pheromone that when using this technique the insect reacts when there is no visible peak on the trace, for example the coco-pod borer moth of South-East Asia. In this case, guesses had to be made about the molecular structure of chemicals which would have peaked when the insect reacted; chemicals were then tested almost by trial and error. For this moth a cocktail of five compounds was identified. These were subsequently synthesized for pheromone traps to achieve control in the coco plantations. To date this species is the most sensitive known to any pheromone, each female moth containing less than 0.1 ng.

8 October 1991

Mr I. D. FERGUSON exhibited some live specimens of the weevil *Sitophilus granarius* (L.) which he had found in some wheat given to him as bird food.

Mr A. J. HALSTEAD showed specimens of the mussel scale *Lepidosaphes ulmi* (L.) (Hemiptera: Diaspididae) on an apple fruit from Winchester, Hampshire. This

sap-feeding insect is common on apple trees and also some ornamentals such as cotoneaster, box, heather and ceanothus. It normally encrusts the bark, but in heavy infestations can spread on to the fruits as in this specimen. It is said to have one generation a year and to overwinter as eggs, but both mature and immature scales were present together on the exhibited fruit.

The names of M. G. Davies and H. A. Sandford were read for the second time and they were duly elected as members of the society.

Mr. S. R. MILES announced that he would shortly be attending the Annual Meeting of English Nature, the English arm of the reorganized former Nature Conservancy Council, where he would be happy to raise any items suggested by members.

Mrs F. M. MURPHY remarked that large numbers of the common garden spider *Araneus diadematus* Clerck, had been present in her garden in Hampton, Middx. this year. This was in contrast to the previous year when there had been very few. The reasons for these great fluctuations in numbers from year to year were not known.

Dr R. S. KEY said that large numbers were also present in his part of Lincolnshire.

Mr S. L. MEREDITH asked about the identification of a very large fly he had seen on a buddleia flower in Southwark Street, London SE1. From his description it was thought that it was probably *Volucella zonaria* (Poda) (Syrphidae).

Dr R. S. KEY spoke on 'Wildlife in Norway—an account of a student expedition'. Dr Key started his talk by giving details of the preparations required for the expedition which had taken place in 1979. Eight students from Hull University had participated and the main aim of the expedition was to study the effects of altitude on the flora and fauna. The members of the expedition arrived in late June and stayed for 10 weeks. The site chosen was the Jostedal Valley which is situated at the western end of the Sogne Fiord. From the glacier at the head of the valley to the sea was a distance of 40 miles over which the altitude decreased from 9000 feet to sea level. Ten projects were undertaken by the expedition members of which five had an entomological content. The project on parasitic wasps added 30 species to the Scandinavian list, whilst that on the large hymenoptera was interesting in that it was found that the colour morphs of the bumblebees were quite different from those found in the same species in Britain. A happy outcome of the expedition was that through it the lecturer met and subsequently married another of the expedition members.

Dr R. S. KEY reported that a party of three, including himself and his wife, had attended the meeting at Tattershall Carrs, Lincolnshire on 14 September. This entomologically unexplored piece of woodland proved to be very uninteresting!

22 October 1991

The President, Mr A. J. HALSTEAD, announced the death of Mr R. G. Chatelain, who had been a member of the Society since 1956.

Mr R. A. JONES showed two specimens of *Cicones undatus* Guer.-Men. (Coleoptera: Colydiidae) from Nunhead Cemetery, London SE15, 20.x.91, under the bark of a dead sycamore tree. This beetle was described new to Britain from specimens found under sycamore bark in Windsor Great Park in 1984 (Mendel, H. & Owen, J. A. *Ent. Rec. J. Var.* 99: 93-95). Nunhead is the second British locality. It shows a remarkable parallel with another colydiid beetle *Synchita separanda* (Reitter), described from specimens found in Windsor Great Park and Knole Park, Sevenoaks, Kent, and also associated with sycamore. The exhibitor found the *Synchita* in his garden (also London SE15) in 1987, and in Nunhead Cemetery earlier this year.

Mr M. J. SIMMONS showed some examples of melanism in *Lymantria monacha* (L.) the black arches, taken at light in Fontaneda, Andorra in July 1991. In Britain, the foodplant is predominantly oak, although it is known to feed on other trees and shrubs. In some European countries it can be a serious forest pest and may cause extensive defoliation of coniferous trees.

Mr R. SOFTLY showed an example of the local harvestman *Dicranopalpus caudatus*resco found on a curtain in a holiday chalet, St Mary's, Scilly in September 1991. This species is characterized by the well-developed apophysis on each pedipalp. Sankey and Savory (British Harvestmen, Synopsis of the British Fauna, No. 4, Linnean Society, 1974) comment on the species' predilection for soft furnishings '... the records from Bournemouth and from Cornwall are, in both cases, from a curtain indoors!'. Mr Softly also reported seeing *Dicranopalpus* on a building at the Rogate Field Centre, Sussex on 12.x.91.

Mr A. J. HALSTEAD showed one of a series of new stamps produced by the Royal Mail, in commemoration of the Ordnance Survey. The series of four stamps show the changes in cartography of the same area of England—by chance the well-known entomological site of Hamstreet in Kent.

Mr M. J. SIMMONS reported the capture of three migrant moths in his light trap at Crowborough, Sussex. These were *Agrius convolvuli* L. and *Mythimna albipuncta* D. & S. in September and *Lymantria dispar* L. in August.

Dr P. E. HATCHER of Oxford spoke on 'The accumulation of moths on British conifers'. Conifers are traditionally regarded as being of only little entomological interest, especially for lepidopterists, so Dr Hatcher was intrigued by the numbers of unusual moths on *Tsuga heterophylla* (Raf.) Sarg. the western hemlock and other conifers. This led to a survey of the moths breeding on ten species of conifer in Bernwood Foest, an area with a 100-year history of conifer planting.

Rather than looking for moth pupae along transects, Dr Hatcher adopted a standardized beating routine for larvae, to obtain a measure of abundance in larvae per 100 beats. Apart from typical conifer feeders like *Thera britannica* Turn., and *T. obeliscata* Hüb., which were all fairly common across the five most common conifers, broadleaf feeders including *Alcis repandata* L. and *Odontopera bidentata* Cl. also occurred on these same five conifers. Despite the evergreen nature of most conifers, broadleaf feeders tended to overwinter as early instar larvae, waiting to feed on new growth in the spring.

Dr Hatcher then sought some way of comparing the moth faunas of the different conifer species. Using the number of moth species on a particular conifer, the relative abundance of the larvae per 100 beats, the ability of the larvae to feed and mature successfully, and the diversity of early and late instars on a particular conifer, Dr Hatcher was able to create an 'index of suitability' for each moth species on each conifer species.

Further sampling of different localities showed that this index varied between locations, implying that whereas a particular moth might do well on a particular conifer in one part of the country, it might do badly on the same conifer in another area.

Examination of the British moth fauna shows that there are several conifer feeders which have 'recently' appeared. These include, for example, *Hyloicus pinastri* L., in 1828, *Eupithecia abietaria* Goeze in 1845 and *E. laricata* Frey. in 1862, several since the 1940s and new species appearing more recently such as *Thera cupressata* Geyer in 1984. At the same time, what were once thought of wholly as broadleaf feeders are now increasingly being found on conifers. Dr Hatcher sought to view these changes in the context of the history of conifer planting, first in Victorian arboreta and subsequently in the mainly coniferous planting of the Forestry

Commission. He suggested that moths continually change their foodplant preferences to follow changes in the conifer flora.

BENHS FIELD MEETING

Alice Holt Forest, Hampshire, 25 May 1991

Leader: **D. Lonsdale**. Two members joined the leader at Lodge Inclosure car park. The rideside vegetation on this plateau-edge site proved less productive than the adjacent moist slopes and stream gully of a 170-year-old oak stand. Here, an abundant beetle population consisted mainly of common woodland carabids including *Pterostichus strenuus* Panz., and *Bembidion varium* Ol., together with staphylinids such as *Stenus impressus* Germ. Peter Chandler, who recorded about 53 fungus gnat species here, reported that most were common and characteristic of a spring flush. They included *Macrocera fasciata* Meig. (Keroplatidae), *Diadoacidia ferruginosa* (Meig.), (Diadocidiidae), and *Bolitophila cinerea* Meig. (Bolitophilidae). Among many mycetophilids was a 'notable' species; *Coelosia silvatica* Land. which, until recent records in forests of central and southern England, seems to have been confined mainly to coastal localities in Wales and East Anglia.

A nearby clear-fell site yielded several common ladybirds, weevils, the cardinal beetle *Pyrochroa coccinea* L. and leaf beetles in bright sunshine, as well as the cerambycids *Rhagium mordax* (Deg.), *R. bifasciatum* F., *Clytus arietis* (L.) and *Judolia cerambyciformis* (Schr.).

The afternoon's session began around two plateau-top ponds, where several more weevils, including *Curculio glandium* Marsh. and *Phyllobius pyri* (L.), were found on ground vegetation, together with common leaf beetles and click beetles. A large population of the wetland carabid, *Elaphrus cupreus* Duft., was found on wet mud, while some pond-dipping yielded the screech beetle, *Hygrobia hermanni* (F.). Flies added to the day's list here included the dolichopodid *Hercostomus cupreus* (Fall.), the pallopterid *Palloptera scutellata* Macq. and additional fungus gnats.

In cool and overcast conditions, the party moved about two miles southwards to Abbots Wood and Willows Green, an area of mixed woodland bisected by a strip of meadow. The few additions to the day's list included the large weevil *Barynotus moerens* (F.), the cardinal beetle *Pyrochroa serraticornis* (Scop.) and the hoverfly *Sphegina clunipes* (Fall.). The crane-fly *Tanyptera atrata* (L.), another notable species, occurred here together with some of the above cerambycid species on wind-blown timber, dumped in two large piles in the meadow areas. These piles, which appeared to be destined for burning, or at least desiccation, made for an interesting, as well as disturbing end to the day.

The issue of a Forestry Commission permit is gratefully acknowledged.

BOOK REVIEW

The scientific names of the British Lepidoptera, their history and meaning, by A. M. Emmet, Colchester, Harley Books, 1991, 188 pp. £25 paperback, £50 hardback.— This is a remarkable book. Harley Books are to be congratulated not only for the quality of production which we have come to expect, but also for their initiative in suggesting this title. Here is a book by someone with a knowledge of the classics, combined with entomological expertise and scholarly application. In these respects the author is unique in this generation and there is unlikely to be another like him.